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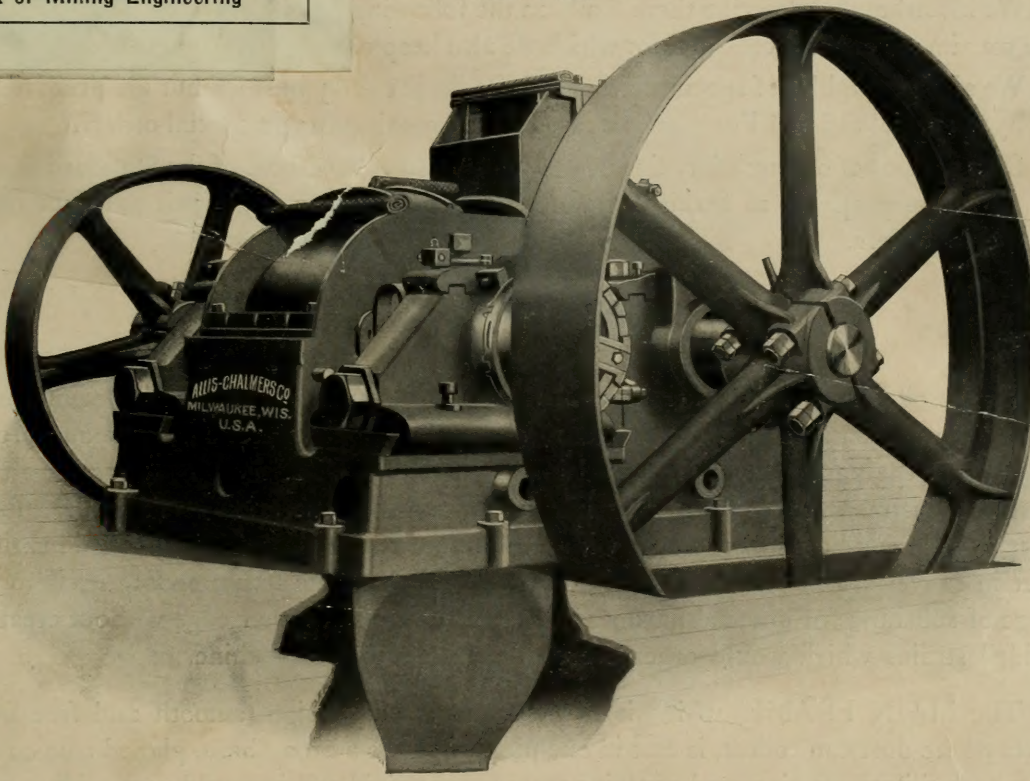
ushing Rolls

Plate No. 2062



STYLE "A" CRUSHING ROLL
(Front View)

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Standard Crushing Rolls—Details of Construction

Our standard line of Crushing Rolls consists of three styles as follows:

Style "A," High Grade Roll.
Style "B," Standard Roll.
Style "C," Simple Belt Roll.

We illustrate and describe these Rolls on the following pages, giving tables of the sizes which we aim to carry in stock and for which we also keep on hand a full line of repair parts.

We also give tables of special sizes which we do not carry in stock but are prepared to build upon special order. For these we also furnish repair parts on special orders.

Descriptions of our auxiliary line of Crushing Rolls follow those of the Standard line of Rolls. We are prepared to furnish any of these rolls and also any repair parts for them upon special orders.

STYLE "A" CRUSHING ROLLS

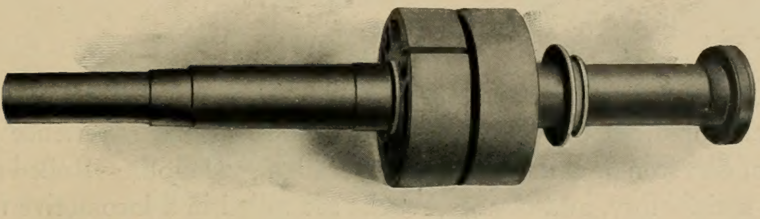
These rolls are of the highest design, material, workmanship and finish of any rolls built. They are capable of operating continuously on the most arduous work and are so arranged that the parts can be examined instantly at the will of the operator and so that the usual adjustments may be made without stopping the operation of the rolls. Parts subject to wear can be easily replaced with a minimum of time lost. The journal bearings are set in swivel blocks which allow the movable roll shaft to accommodate itself to the passage of substance of unusual hardness between the rolls at either edge without creating one-sided strains which would otherwise be dangerous to the machine.

The MAIN FRAME, which is of neat and strong design, smooth and free from pockets where dust can collect, is cast in one piece. It has a broad base, planed true on the bottom to facilitate erection, and contains seats for the rigid roll journal boxes, sliding pedestals and dust housing. It also contains all the working parts and preserves their alignment.

The JOURNAL BOXES are of special design. They are cast in one piece, with a large area of wearing space, and this space is lined with the best quality of babbitt metal.

This lining does not go entirely around but is confined to that side of the bearing which receives the thrust of the rolls when they are at work. On the other side where the cap is usually placed is a large chamber which is kept filled with soft woolen waste saturated with oil. The waste is continually wiping oil upon the whole length of the journal over an area as great as that of the babbitted surface, while the soft lining catches and retains any sand or grit which would otherwise tend to heat or cut the journal. The oil chambers serve also as a means of examining the bearings at any time. Two openings, each large enough to admit the hand, lead directly into each chamber. Through these, the bearings may be examined or the hand may be thrust so that every part of the journal can be felt. This can be done with safety while the rolls are running. The hand holes are covered with dust proof flaps of leather or rubber attached to the pedestal caps and weighted to keep them tightly in place.

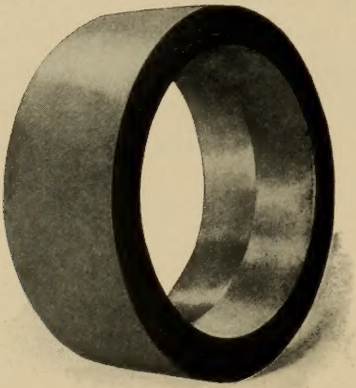
Plate No. 627



Style "A" Roll Shaft

The ROLL SHAFTS are of forged steel. They are of sufficient diameter to withstand the most serious strains without deflection and long enough to have their journals entirely outside of the dust housing. They are reinforced in the center where the rolls are mounted, and a collar for adjusting the positions of the shaft endwise is screwed upon one end of the shaft and keyed fast. The hub for the roll shaft is made of cast iron in two parts. One part is forced upon the shaft with a hydraulic press. The other is made to fit loosely on the shaft and split on one side from the center to the edge giving it a clamping action when in use. The faces of the two parts are turned tapering toward each other to fit the inner portion of the roller shell. The loose portion is drawn to position by means of four strong bolts which pass through it into the part that is fast to the shaft. This action draws the hub snugly into the roller shell and also clamps the split portion of the hub to the shaft, securing the shell rigidly on the shaft in a centralized position. When a roll shell is to be changed, the loose part of the hub is forced out by means of two long, heavy, threaded bolts which are supplied for this purpose.

Plate No. 630



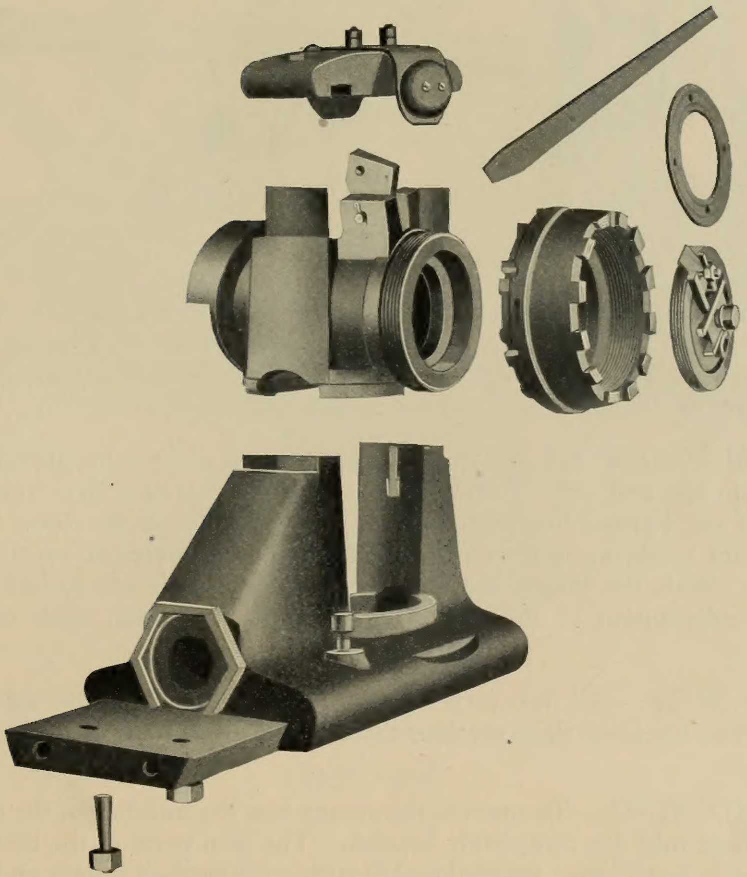
Roll Shells for Style "A" Rolls

The ROLL SHELLS are made of carefully selected rolled, chrome, manganese or cast steel which combines the best wearing qualities. Long experience has led to our abandonment of cast iron or chilled iron shells for high grade rolls. Rolled steel has proved to be the most satisfactory, and our steel shells are rolled in a locomotive tire mill, turned true inside and on the edges.

SLIDING PEDESTALS:—The movable roll is carried on sliding pedestals in the usual manner but the design and dimensions of these pedestals are peculiar to the Style "A" Rolls. The pedestals do not come in contact with the main frame at all, hence the destructive wear which causes heavy repair bills, and sometimes the entire loss of a frame, is entirely avoided. The pedestals are carried on heavy renewable wearing plates, which are bolted to the main frame. The bolts have a long taper. They are fitted to carefully reamed holes drilled to a template, to assure rigidity and interchangeability to the wearing plates. The plates are broad to give stability and good wearing surfaces, and the edges are made angular and fitted into the pedestal bases to prevent cutting.

TENSION SPRINGS:—The pressure necessary to keep moveable rolls in position is produced and maintained by a nest of helical springs. These springs are held between two plates. The bolts which pass through one plate and screw into another serve to maintain the springs under any given tension after the tension has once been fixed and this allows of the dismantling of the machine for all ordinary repairs without changing the adjustment of the springs.

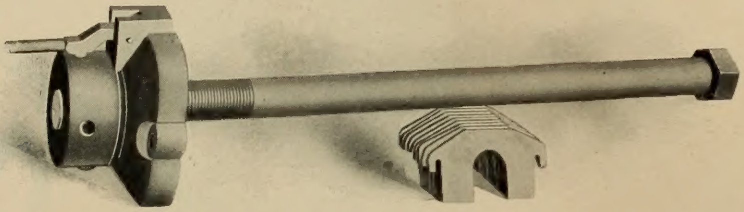
Plate No. 629



STYLE "A" ROLLS
Sliding Pedestal Details

TENSION BARS:—Tension bars extend through the fixed and sliding pedestals and nests of tension springs, one on each side of the machine, to transfer the pressure of the springs to the movable roll and to maintain the proper distance between the rolls. These serve as guides as well as tension bars. One end of each bar is furnished with a forged hexagon head and the other is threaded for a tension nut. The distance between the rolls is regulated by sets of shims of various thickness placed on the bar between the fixed and movable pedestals The nuts on the tension bars are held from backing off under vibration by latches on the spring seats which drop into holes drilled around the outer edge of the nuts. The heads of the bars fit into pockets which prevent their turning.

Plate No. 631



Tension Bar for Style "A" Rolls With Lock Nut and Shims

ROLL ADJUSTMENT:—The rolls are adjusted endwise to prevent flanging, by a device applied to one end only of each shaft. This consists of a large ring threaded upon an extension of the journal box and a screw plate inserted in the outer end of this ring. Between these the collar upon the end of the shaft works, protected on its sides by bronze wearing rings. Both the large ring and the plate within it are locked into place with keepers. The adjustment of the rolls can be made, if desired, while the machine is in operation.

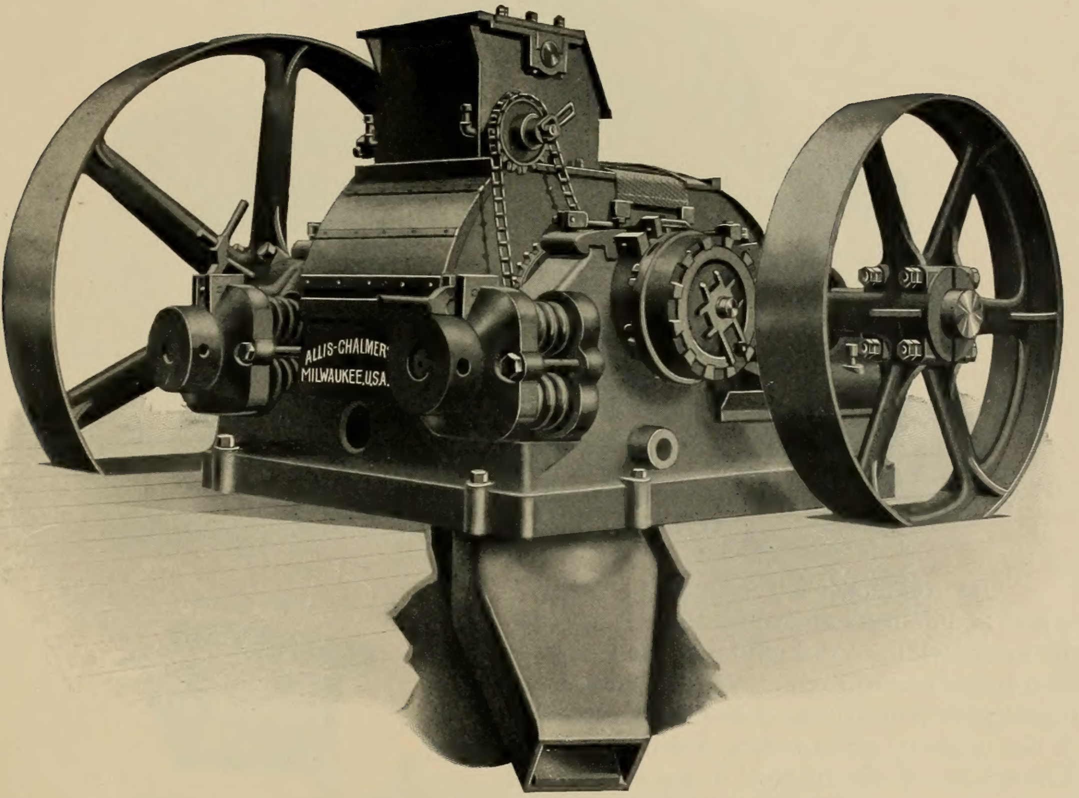
CLAMP NUTS:—All nuts larger than ¾ inch are split on one side and fitted with bolts or cap screws to clamp them on their threads. This effectually prevents their working loose.

DUST HOUSING:—To prevent the escape into the building of the dust arising from dry crushing these rolls are completely housed. The iron work of the housing is complete in one piece and is fitted into a tapered socket with a rubber belt lining, and is drawn in and secured by strong bolts. There are large openings in each end of the housing, covered by dust tight but light canvas aprons through which the rolls can be examined across their whole face at any time. When the aprons are down they are held in place by weight bars at their ends. Another canvas covered opening directly over the meeting place of the rolls permits of cleaning out the rock and ore from between the rolls, if desired.

The FEEDER or HOPPER:—These rolls may be supplied with either a plain hopper or an automatic feeder.

ADJUSTABLE DISCHARGE SPOUT:—The hopper bottom of the main frame ends in a circular opening to which is attached, by a circular flange, a discharge spout that can be fixed to lead the material out in any direction desired.

Plate No. 1389



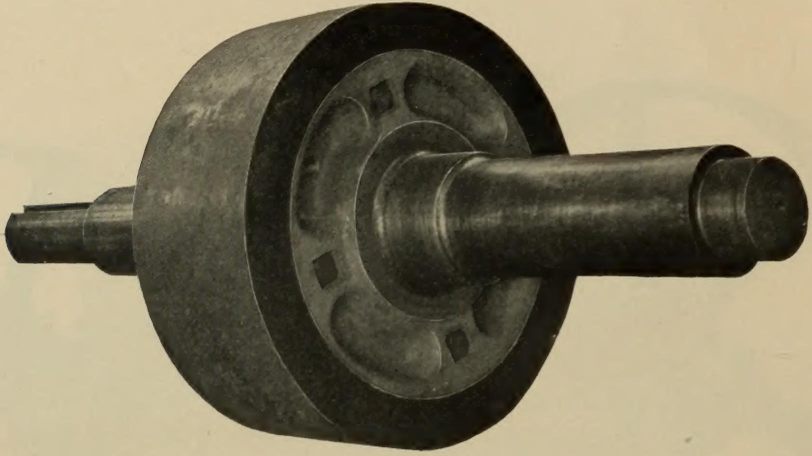
STYLE "A" CRUSHING ROLL
(Back View)

STANDARD SIZES OF STYLE "A" ROLLS

Size of Rolls, inches Diameter by Face	Size of Driving Pulleys, inches. Each Roll.	Revolutions per Minute.	Weight Pounds
26″ x 15″	One 72 x 12 and one 48 x 8	75 to 125	16,500
36″ x 15″	One 96 x 15 and one 72 x 8	40 to 100	33,000

EXTRA SHAFTS:—Where the work is roughing, the practice described above for trimming shells cannot be carried out so readily, and with some ores it is necessary to true up the shell surfaces in a lathe several times during the life of the shells.

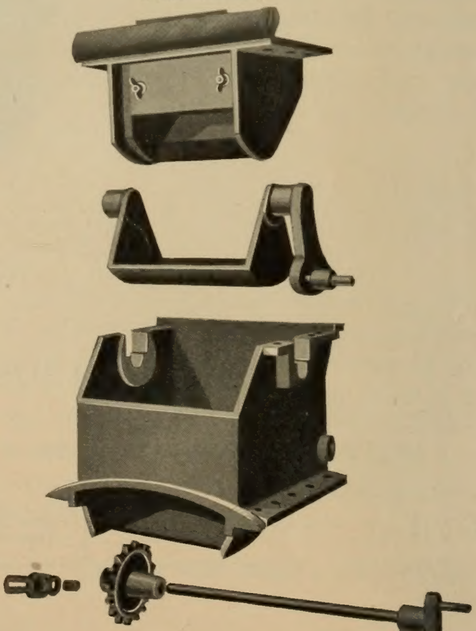
Plate No. 638



Shaft, Core and Shell, Assembled

AUTOMATIC ROLL FEEDER

Plate No. 1395

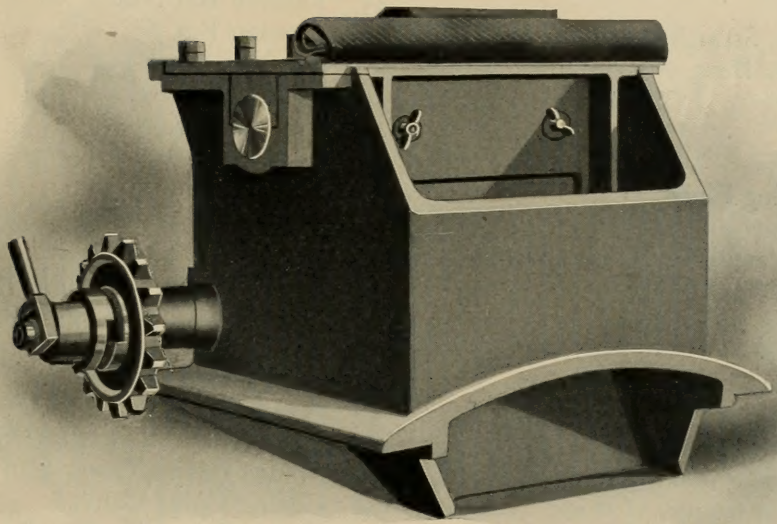


Details of Automatic Roll Feeder

Our roll feeder is continuous in its operation and delivers an even stream of ore over the entire width of the roll face. It is always kept full of material, thus avoiding the not uncommon trouble arising from the classification of the material when rolling down the spout. The stream of ore supplied to the rolls by the feeder is instantly brought into view by simply raising the canvas curtain on the front of the feeder. The operation of the feeder can be stopped instantly by turning the cam lever at the sprocket wheel end of the shaft to a position at right angles to the shaft. The feeder can be adjusted for movement by changing the position of the crank pin by means of the screw shown in the accompanying cut, and the position of the feeder sling can be regulated by changing the position of the pin in the slotted arm. The feeder is not only to be depended upon to feed evenly and continuously, but it is small in size, has but a small amount of movement to accomplish its work, will last a long time, is capable of delicate adjustment and is neat in appearance. It is made under patents controlled by us.

AUTOMATIC ROLL FEEDER

Plate No. 1398



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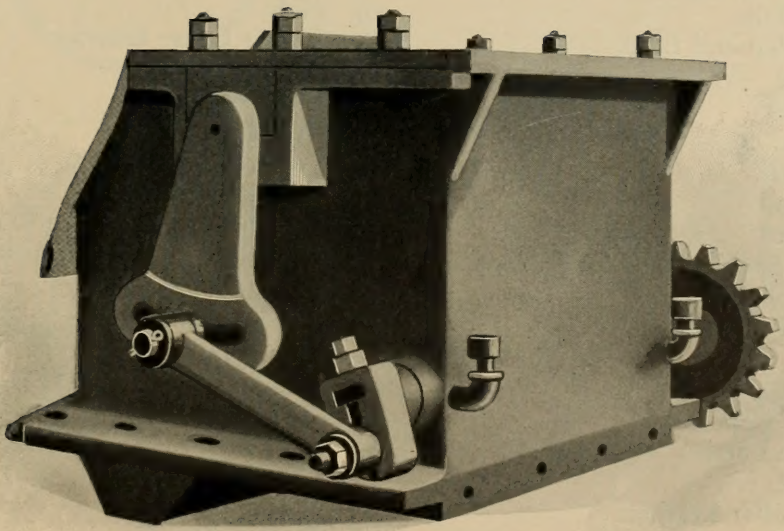
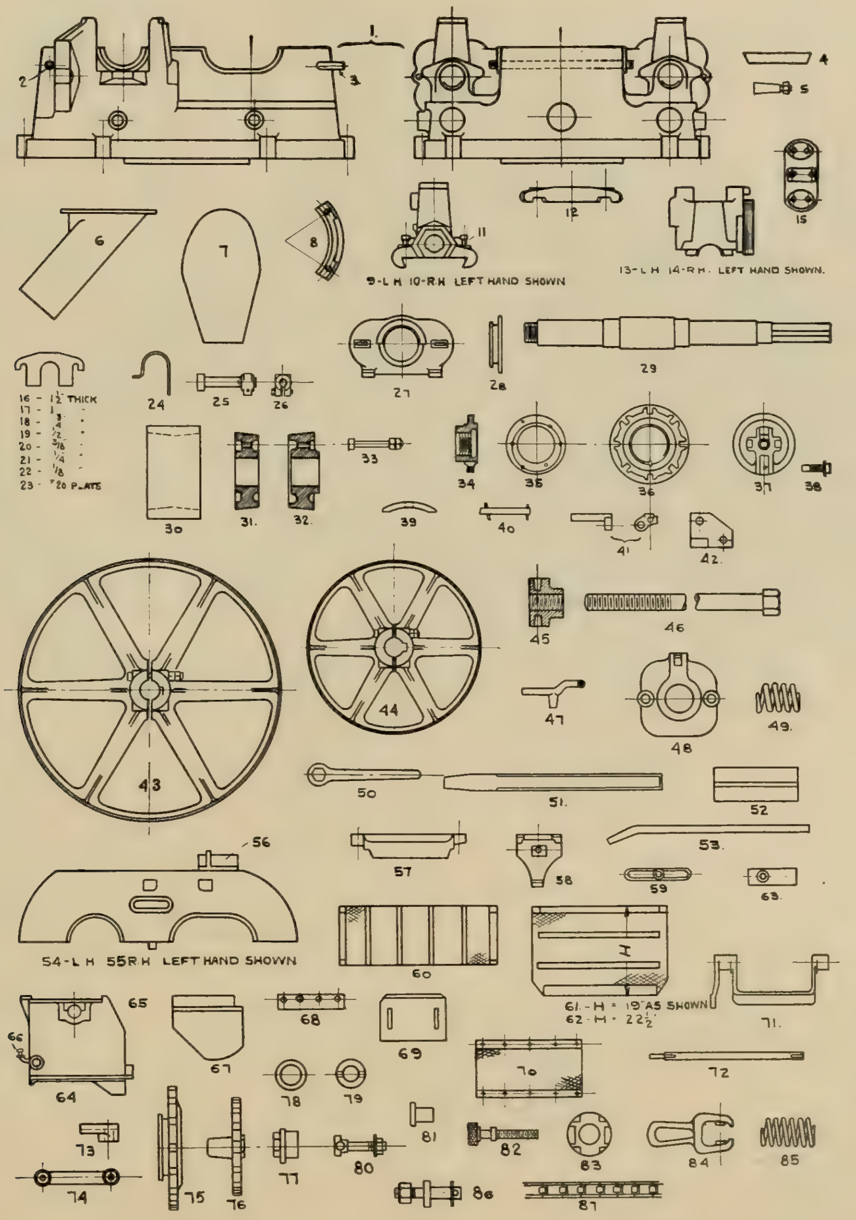


REPAIR PARTS FOR STYLE "A" CRUSHING ROLLS

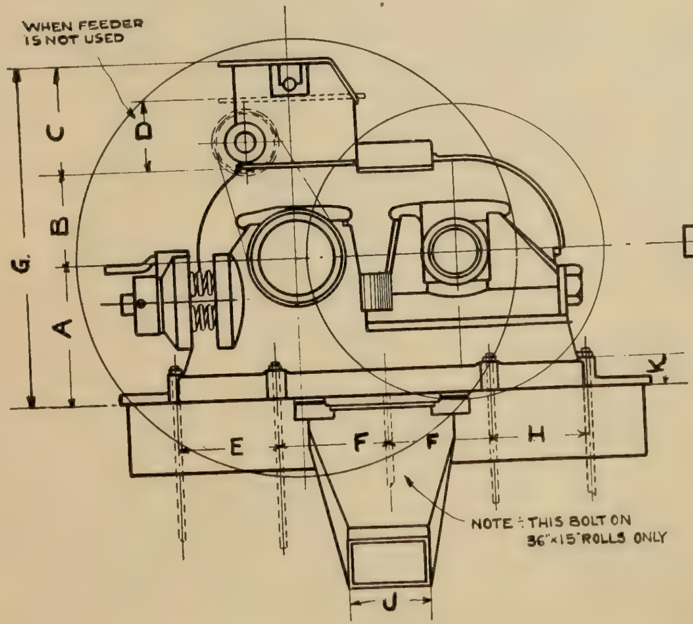
(T-26)

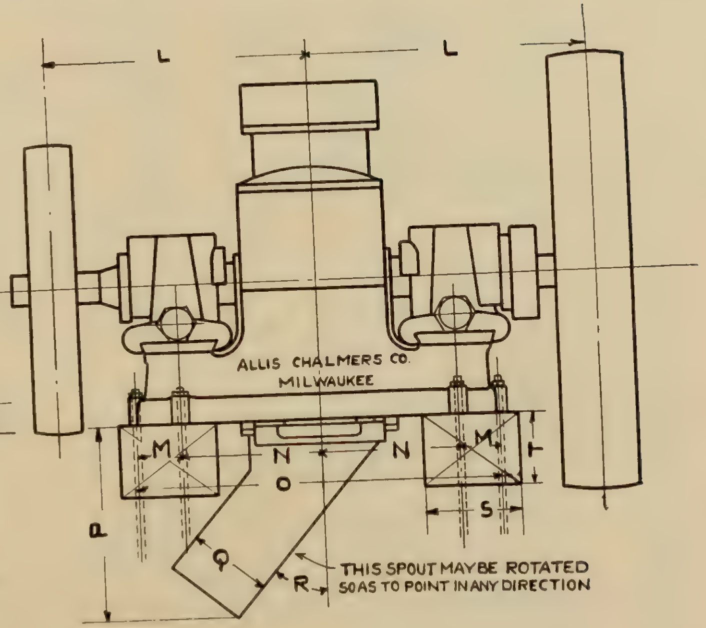
1	Frame
2	Spray Pipe, Straight
3	Spray Pipe, Bent
4	Slide Plate
5	Taper Bolt
6	Spout
7	Spout Lining Plate
8	Spout Clamp
9	Sliding Pedestal, L. H. (as shown)
10	Sliding Pedestal, R. H.
11	Pipe Nipple with Cap
12	Pedestal Cap
13	Journal Box, L. H. (as shown)
14	Journal Box, R. H.
15	Grease Cup Cover
16	Tension Bar Shims, 1½″ thick
17	Tension Bar Shims, 1″ thick
18	Tension Bar Shims, ¾″ thick
19	Tension Bar Shims, ½″ thick
20	Tension Bar Shims, ⅜″ thick
21	Tension Bar Shims, ¼″ thick
22	Tension Bar Shims, ⅛″ thick
23	Tension Bar Shims, No. 20 thick
24	Dust Plate Spring
25	Pedestal Bolts
26	Nuts for Pedestal Bolts
27	Dust Plate
28	Dust Collar
29	Roll Shaft
30	Roller Shell
31	Loose Head
32	Tight Head
33	Bolt with Special Head for Roller Heads
34	Thrust Collar
35	Wearing Rings
36	Ring Nut
37	Plate Nut
38	Pipe with Cap
39	Plate Nut Latch
40	Latch Pin
41	Thrust Collar Feather
42	Ring Nut Latch
43	Large Pulley
44	Small Pulley
45	Tension Bar Nut
46	Tension Bar
47	Bar Nut Latch
48	Spring Cap
49	Tension Spring
50	Socket Wrench
51	Ring Nut Lever
52	Babbitting Mandrel
53	Crow Bar
54	Side Plate for Casing, L. H. (as shown)
55	Side Plate for Casing, R. H.
56	Bridge Piece
57	Casing End Piece
58	Cheek Plate
59	Washer for Cheek Plate Bolt
60	Bridge Casing Cover Canvas
61	Casing Cover Canvas
62	Casing Cover Canvas
63	Feather for Roll Shaft
64	Feeder Casing
65	Bearing Cap
66	Oil Pipe
67	Feeder Chute
68	Scraper Plate
69	Slide
70	Feeder Cover Canvas
71	Sling for Feeder
72	Feeder Shaft
73	Crank
74	Connecting Rod
75	Roll Shaft Sprocket
76	Clutch Sprocket
77	Clutch
78	Clutch Washer
79	Special Shaft Collar
80	Crank Pin
81	Bushing
82	Adjusting Screw
83	Clutch Lever Fulcrum
84	Clutch Lever
85	Spring for Feeder
86	Rocker Arm Pin
87	Drive Chain

STYLE "A" CRUSHING ROLLS—LIST FOR REPAIRS (T-26)



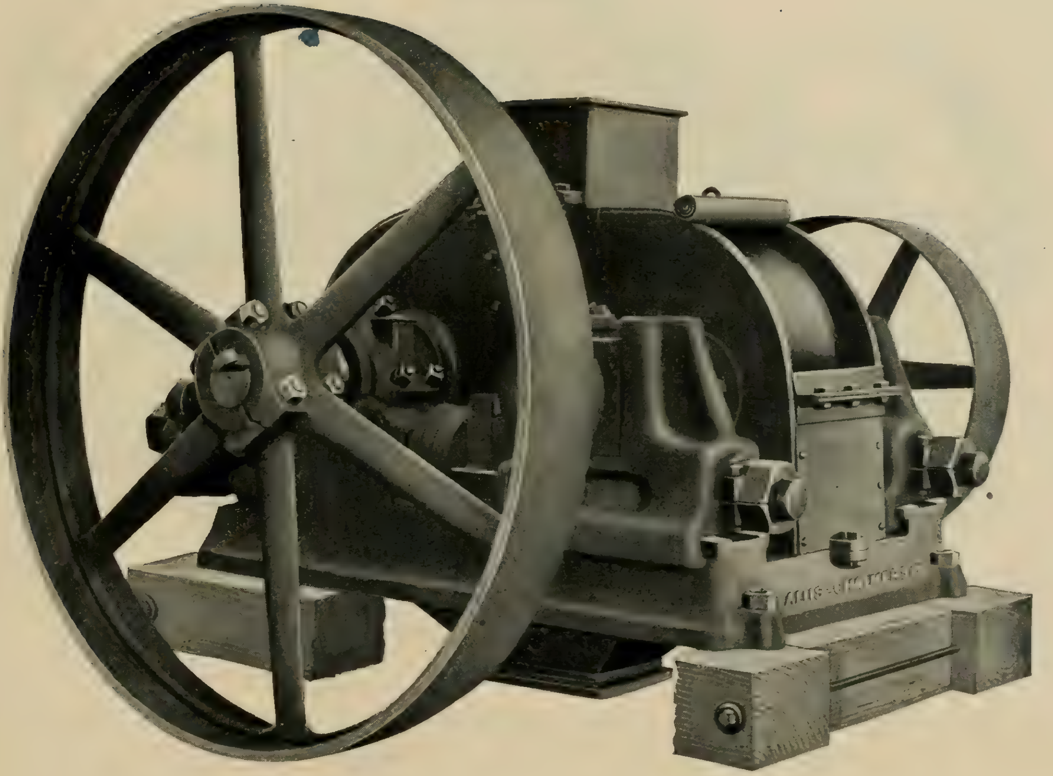
CLEARANCE DIMENSIONS FOR STYLE "A" CRUSHING ROLLS





Size of Rolls	DIMENSIONS OF ROLLS																				Wood Frame	
Inches.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	Holding Down Bolts	Large Pulley	Small Pulley	S	T
26" x 15"	23"	15"	17"	12"	20½"	13"	4′ 7"	20½"	12¾"	4¾"	3′ 9¼"	6½"	22¾"	4′ 10½"	2′ 8⅛"	12¾"	40°	1" x 3′ 4"	72" x 12½"	48" x 8½"	16"	12"
36" x 15"	2′ 5"	19"	17"	12"	15¾"	2′ 4"	5′ 5"	16½"	12¾"	4"	4′ 6½"	7⅝"	2′ 2⅞"	5′ 9"	3′ 2⅝"	12¾"	40°	1" x 4′ 0"	96" x 15½"	72" x 8½"	18"	12"

Plate No. 4342

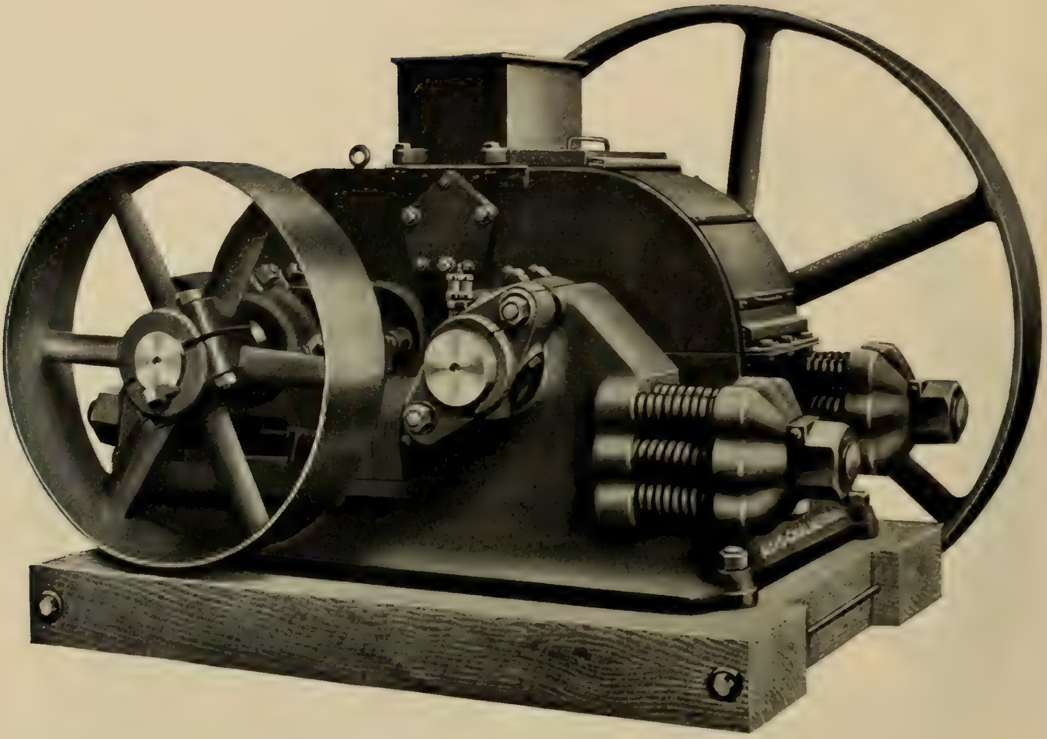


STYLE "B" CRUSHING ROLL

(Front View)

Plates Nos. 4342 and 4338 show our Style "B" crushing rolls of the latest design. These rolls are of extra heavy proportions, as is indicated by the appended list of weights. The base frames are of a rigid design, made in a single piece, the bearings of the stationary rolls being cast as a part of this same piece. The frames are provided with planed slides for the bearing supports of the movable rolls, these slides being fitted with removable forged steel wearing plates facilitating repairs and preventing the wear of the actual roll frame by the motion of the sliding boxes. A single heavy forged steel tension rod with a collar solidly forged upon it passes through each sliding box, and through recesses cast in the frame below the stationary bearing.

Plate No. 4338



STYLE "B" CRUSHING ROLL
(Back View)

We build our Style "B" Crushing Rolls in four standard sizes (see table below) which sizes we aim to carry in stock, as well as a complete line of repair parts.

STANDARD SIZES OF STYLE "B" ROLLS

Size of Rolls, inches Diameter by Face	Size of Driving Pulleys, inches, Each Roll with	Revolutions per Minute	Total Weight without Housing, Pounds	Add for Weight of Sheet Steel Housing, Pounds
24″ x 8″...........................	One 60″ x 8½″ and One 30″ x 8½″	100 to 160	10,500	400
24″ x 14″...........................	One 60″ x 8½″ and One 30″ x 8½″	100 to 160	12,000	475
30″ x 10″........	One 78″ x 10½″ and One 40″ x 10½″	75 to 130	16,000	600
36″ x 12″...........................	One 84″ x 10½″ and One 42″ x 10½″	50 to 100	23,000	900

In the following table we give a list of special sizes of our Style "B" Rolls. We are prepared to build any of these sizes upon order, also to furnish repair parts, but we do not aim to carry in stock either the finished machines or repair parts.

SPECIAL SIZES OF STYLE "B" ROLLS

Size of Rolls, Inches Diameter by Face	Size of Driving Pulleys, Inches, Each Roll with	Revolutions per Minute	Total Weight without Housing, Pounds	Add for Weight of Sheet Steel Housing, Pounds
24″ x 10″	One 60″x 8½″ and One 30″x 8½″	100 to 160	11,000	425
24″ x 12″	One 60″x 8½″ and One 30″x 8½″	100 to 160	11,500	450
30″ x 12″	One 78″x 10½″ and One 40″x 10½″	75 to 130	16,900	650
30″ x 14″	One 78″x 10½″ and One 40″x 10½″	75 to 130	17,800	700
30″ x 16″	One 78″x 10½″ and One 40″x 10½″	75 to 130	18,700	750
36″ x 14″	One 84″x 10½″ and One 42″x 10½″	50 to 100	24,100	950
36″ x 16″	One 84″x 10½″ and One 42″x 10½″	50 to 100	25,200	1,000

Heavy helical steel springs are used to maintain the requisite amount of pressure between the rolls, the arrangement being such that the springs may be set up to the proper compression, bringing the tension rod collar hard against the face in front of the stationary bearing. By this means the movable bearings may be drawn back to permit the removal of the shafts and rolls without affecting the compression of the springs, thus avoiding the annoyance and delay which would be due to the necessity of readjusting these springs after they have been once set for the desired pressure.

Between the facings on the movable bearings and the collars of the tension rods there are interposed removable separating plates or distance pieces of various thickness, by means of which, with the desired amount of compression on the springs, the distance between the roll faces may be maintained at a fixed minimum, and the rolls never come together even when running empty.

The movable bearings are so constructed and so set in their supporting castings that they may freely swivel and permit the roll shaft to accommodate itself to the passage of hard substances through either edge of the rolls without subjecting the machine to a one-sided strain which might result in serious injury.

The stationary roll shaft is furthermore provided with an improved side adjustment which can be set while the rolls are in operation, and which will not loosen nor alter its position in consequence of the jar of the machine. All the bearings are lined with the best babbitt metal, and are fitted with efficient dust covers on their inside ends. The roll shafts are of the best forged steel, carefully turned, and the cast iron roll centers are forced upon them by hydraulic pressure The roll shells, unless specifically ordered to the contrary, are made of the best quality of rolled steel, bored out tapering to fit the roll centers and are held in place upon these centers by means of heavy draw bolts.

Each roll is provided with one large pulley on the stationary roll shaft, and one small pulley on the movable roll shaft, the diameters of these pulleys being indicated in the appended list. The pulleys are made with clamp hubs, reducing the danger from casting strains, and permitting a very rigid attachment to the shaft.

The rolls may be furnished either with a plain hopper having distributing plates and inside wearing plates, or preferably, with a dust-tight sheet steel housing carrying a similar hopper. The side wearing plates within the hopper are of extra hard white iron, and are fitted with a positive adjustment so that they may be set close to, or at any desired distance from, the edges of the rolls, as may best suit the size of the material being fed in, and their positions maintained as wear takes place.

The necessary foundation bolts and washers are always furnished with the rolls. The larger nuts on the tension rods, as well as the nuts on the bearing bolts, are of a special clamp type, and will not be loosened by the jar of the rolls.

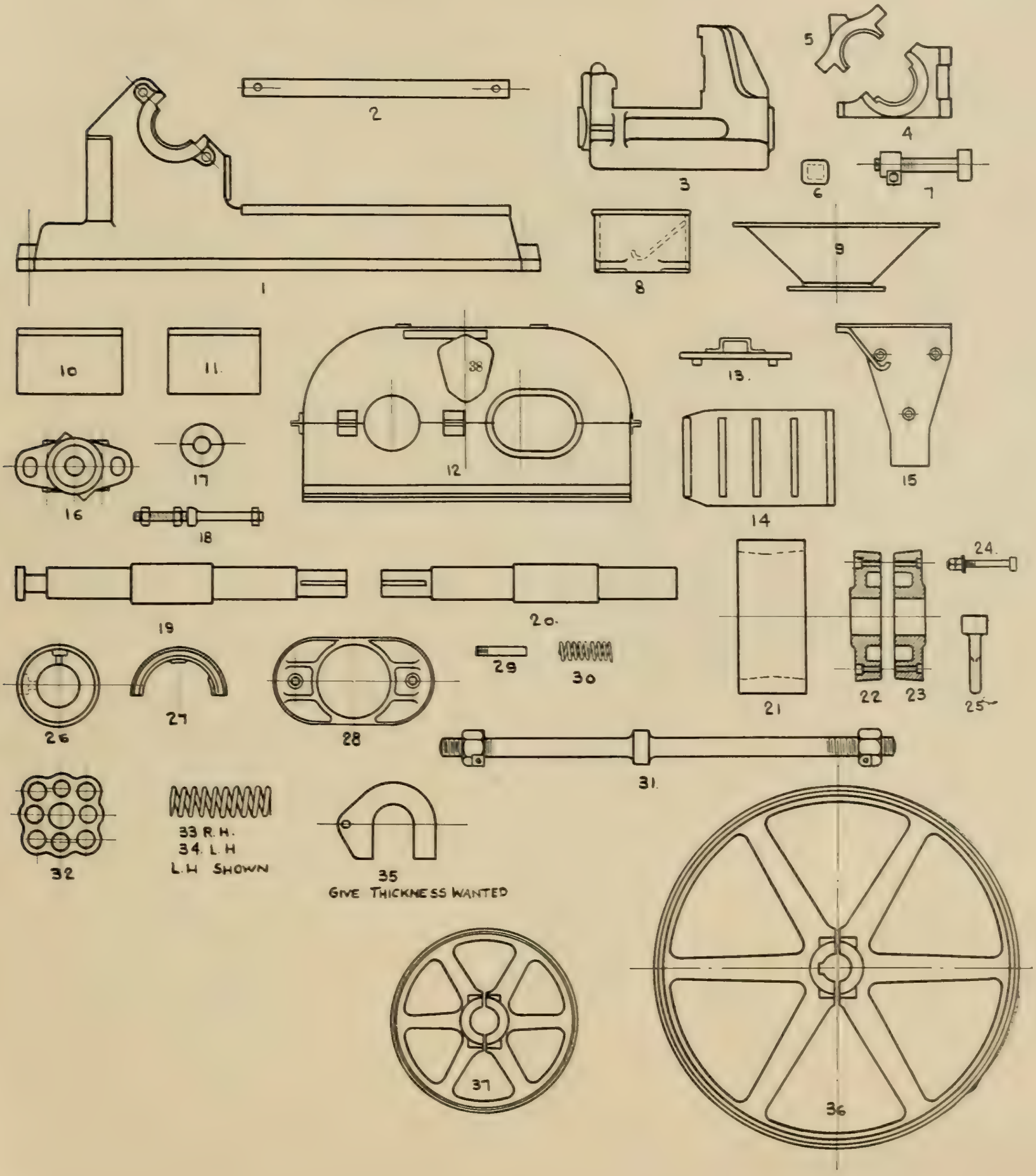
REPAIR PARTS FOR STYLE "B" CRUSHING ROLLS

(T-34)

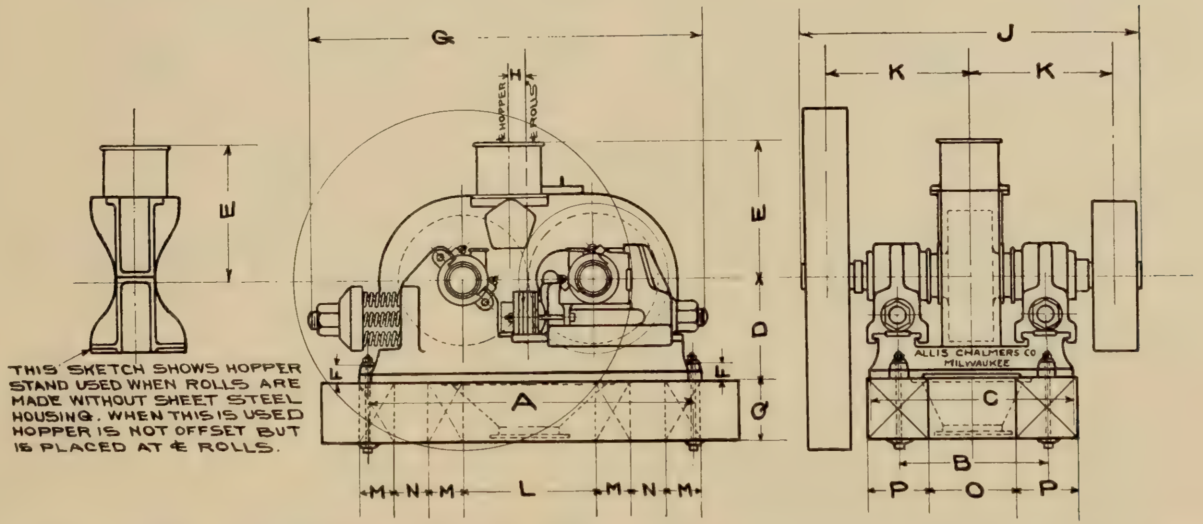
1 Bed Plate
2 Wearing Plate
3 Swivel Box Bracket
4 Swivel Box
5 Cap
6 Cover for Oil Well
7 Bearing Bolt
8 Hopper
9 Discharge Hopper
10 Deflecting Plate, Long
11 Deflecting Plate, Short
12 Housing
13 Cover
14 Cover, Canvas
15 Side Plate
16 Adjusting Casting
17 Collar
18 Collar Bolt
19 Adjusting Shaft
20 Roll Shaft
21 Roll Shell
22 Loose Head
23 Tight Head
24 Bolt for Roller Heads
25 Socket Wrench
26 Collar
27 Guard
28 Side Cover
29 Stud
30 Spring for Side Cover
31 Tension Rod
32 Spring Plate
33 Tension Rod Spring, R. H.
34 Tension Rod Spring, L. H.
35 Shim, Give Thickness Wanted
36 Large Pulley
37 Small Pulley
38 Adjusting Plate

Toronto

STYLE “B” CRUSHING ROLLS—LIST FOR REPAIRS (T-34)



CLEARANCE DIMENSIONS FOR STYLE "B" CRUSHING ROLLS (T-54)



THIS SKETCH SHOWS HOPPER STAND USED WHEN ROLLS ARE MADE WITHOUT SHEET STEEL HOUSING. WHEN THIS IS USED HOPPER IS NOT OFFSET BUT IS PLACED AT ℄ ROLLS.

Size of Rolls	DIMENSIONS OF ROLLS													Wood Frame					
Inches	A	B	C	D	E	F	G	H	J	K	Holding Down Bolts	Large Pulley	Small Pulley	L	M	N	O	P	Q
24″ x 8″	5′ 2½″	2′ 4⅞″	3′ 3⅞″	21″	2′ 1″	3¼″	6′ 4½″	3½″	5′ 4¾″	2′ 3½″	1⅛″	60″ x 8½″	26″ x 8½″	20″	8″	8″	16⅞″	12″	12″
24″ x 10″	5′ 2½″	2′ 6⅞″	3′ 5⅞″	21″	2′ 1″	3¼″	6′ 4½″	3½″	5′ 6¾″	2′ 4½″	1⅛″	60″ x 8½″	26″ x 8½″	20″	8″	8″	18⅞″	12″	12″
24″ x 12″	5′ 2½″	2′ 8⅞″	3′ 7⅞″	21″	2′ 1″	3¼″	6′ 4½″	3½″	5′ 8¾″	2′ 5½″	1⅛″	60″ x 8½″	26″ x 8½″	20″	8″	8″	20⅞″	12″	12″
24″ x 14″	5′ 2½″	2′ 10⅞″	3′ 9⅞″	21″	2′ 1″	3¼″	6′ 4½″	3½″	5′ 10¾″	2′ 6½″	1⅛″	60″ x 8½″	26″ x 8½″	20″	8″	8″	22⅞″	12″	12″
30″ x 10″	6′ 3″	2′ 10″	3′ 11″	23¼″	2′ 7¼″	3¾″	7′ 6½″	4″	6′ 5″	2′ 9″	1¼″	78″ x 10½″	34″ x 10½″	2′ 6½″	8″	8″	20″	14″	14″
30″ x 12″	6′ 3″	3′ 0″	4′ 1″	23″¼	2′ 7¼″	3¾″	7′ 6½″	4″	6′ 7″	2′ 10″	1¼″	78″ x 10½″	34″ x 10½″	2′ 6½″	8″	8″	22″	14″	14″
30″ x 14″	6′ 3″	3′ 2″	4′ 3″	23¼″	2′ 7¼″	3¾″	7′ 6½″	4″	6′ 9″	2′ 11″	1¼″	78″ x 10½″	34″ x 10½″	2′ 6½″	8″	8″	24″	14″	14″
30″ x 16″	6′ 3″	3′ 4″	4′ 5″	23¼″	2′ 7¼″	3¾″	7′ 6½″	4″	6′ 11″	3′ 0″	1¼″	78″ x 10½″	34″ x 10½″	2′ 6½″	8″	8″	2′ 2″	14″	14″
36″ x 12″	7′ 3″	3′ 1″	4′ 2¼″	2′ 1½″	2′ 10¼″	4½″	8′ 4½″	6½″	6′ 5½″	2′ 9″	1¼″	84″ x 10½″	42″ x 10½″	3′ 0″	10″	9″	23″	14″	16″
36″ x 14″	7′ 3″	3′ 3″	4′ 4¼″	2′ 1½″	2′ 10¼″	4½″	8′ 4½″	6½″	6′ 7½″	2′ 10″	1¼″	84″ x 10½″	42″ x 10½″	3′ 0″	10″	9″	2′ 1″	14″	16″
36″ x 16″	7′ 3″	3′ 5″	4′ 6¼″	2′ 1½″	2′ 10¼″	4½″	8′ 4½″	6½″	6′ 9½″	2′ 11″	1¼″	84″ x 10½″	42″ x 10½″	3′ 0″	10″	9″	2′ 3″	14″	16″
42″ x 16″	8′ 6″	3′ 8″	4′ 11″	2′ 8″	2′ 11¼″	8½″	9′ 6″	10″	7′ 11¾″	3′ 5¼″	1¾″	84″ x 17″	54″ x 11″	3′ 4″	10″	14″	2′ 4″	16″	16″

STYLE "C" CRUSHING ROLL

These machines have stood the test of many years of use and have given the best of satisfaction. Plate 1383 is a cut of the 36-inch x 16-inch size and gives a general idea of the design. In the other sizes some features differ, but all are made strong and durable, of the best material, and in a workmanlike manner. Steel springs are always supplied, except for the smallest size, which requires but little, if any, spring tension. The capacities of these rolls are not stated, as these vary considerably with the material to be crushed and the speed and setting of the rolls.

We build our Style "C" Crushing Rolls in three standard sizes (see table below) which sizes we aim to carry in stock, also a complete line of repair parts.

STANDARD SIZES OF STYLE "C" ROLLS

Size of Rolls, in Inches. Dia. by Face	Sizes of Driving Pulleys, in Inches	Revolutions per Minute	Total Weight, Pounds
9" x 9"	20" x 6½"	175	1,300
12½" x 12"	36" x 8½"	150	3,000
24" x 14"	48" x 10½"	100	9,200

In the table below, we give a list of special sizes of our Style "C" Rolls. We are prepared to build any of these sizes upon order and to furnish repair parts, but we do not aim to carry in stock finished machines or any repair parts.

SPECIAL SIZES OF STYLE "C" ROLLS

Size of Rolls in Inches. Dia. by Face	Sizes of Driving Pulleys, in Inches	Revolutions per Minute	Total Weight, Pounds
16" x 10"	36" x 8½"	140	4,000
18" x 10"	42" x 8½"	135	5,300
20" x 10"	42" x 8½"	130	6,800
*24" x 14"	48" x 10½"	100	10,000
30" x 16"	60" x 12½"	90	15,700
36" x 16"	60" x 12½"	75	19,300
36" x 18"	60" x 12½"	75	20,300

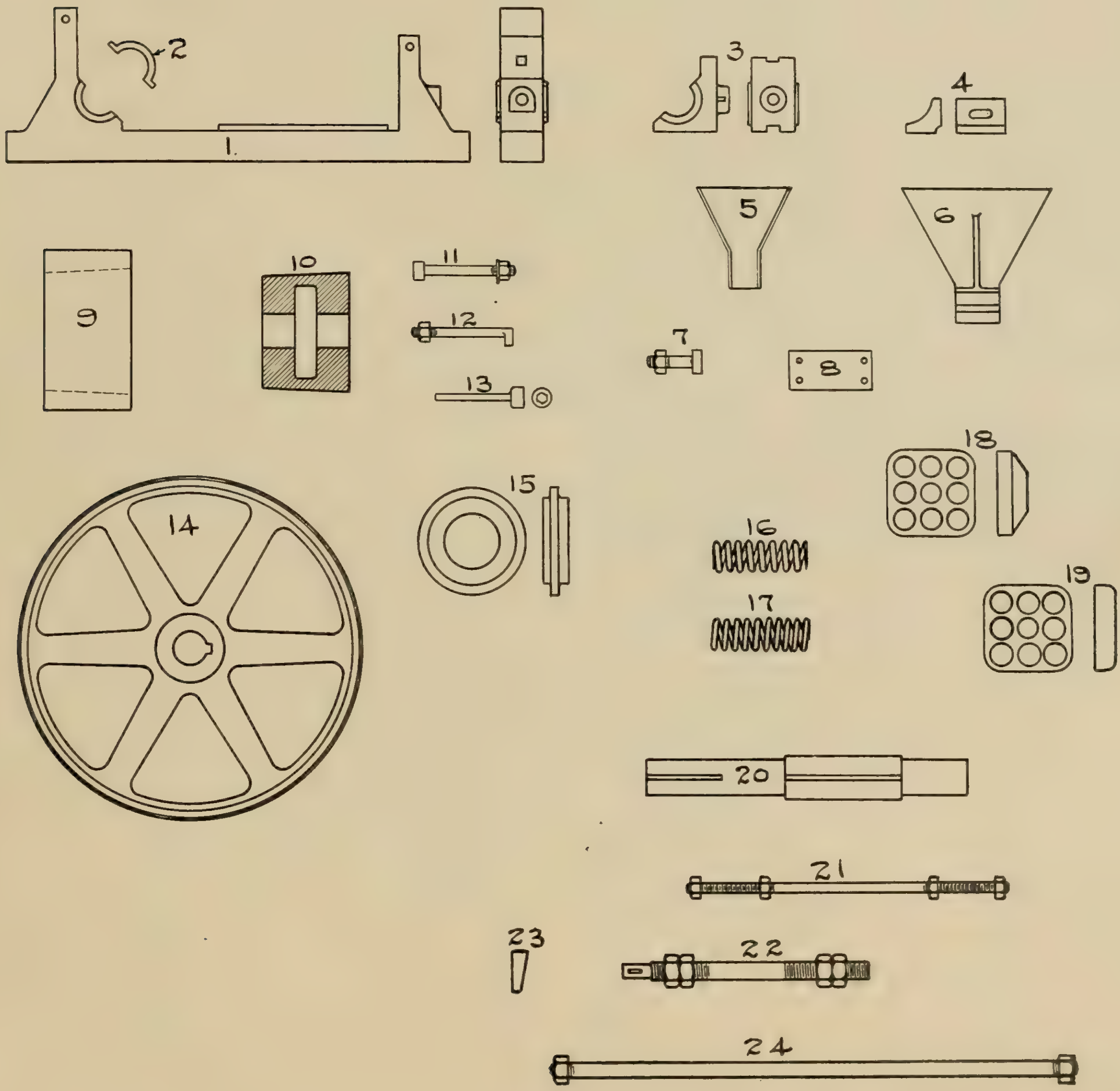
*Made Sectional—300 pound limit.

We do not supply this style roll with housings.

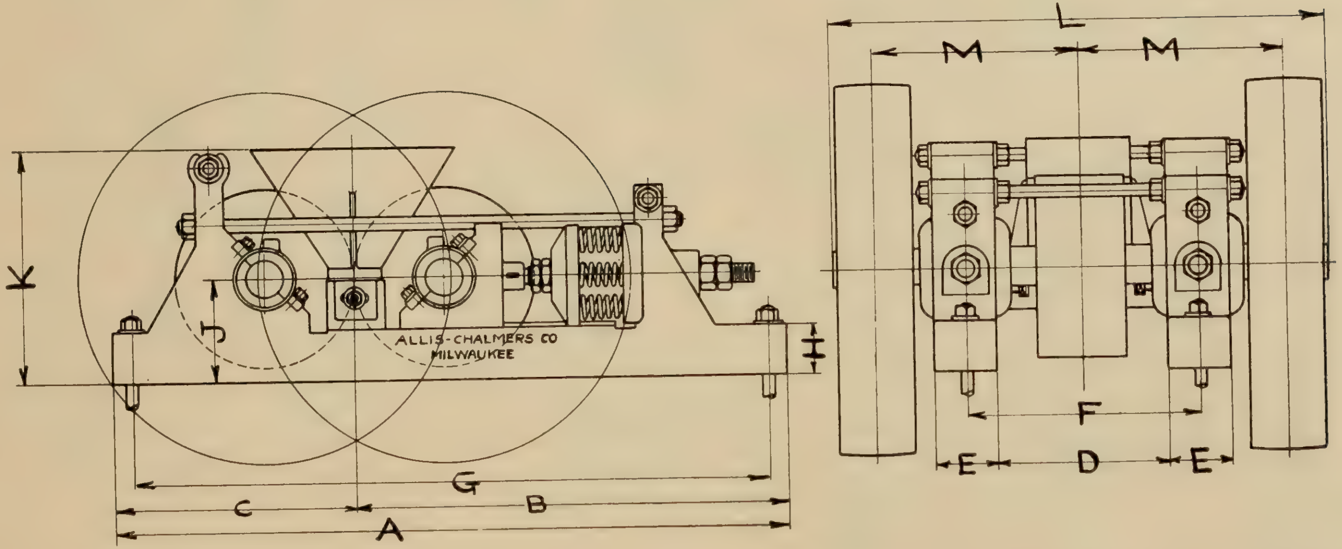
REPAIR PARTS FOR 18″x10″, 20″x10″, 24″x14″, 30″x16″, 36″x16″ and 36″x18″, STYLE "C" ROLLS (T-53)

1	Half Frame
2	Cap for Boxes
3	Sliding Box
4	Bracket for Hopper
5	Lining for Hopper
6	Side for Hopper
7	Bolt for Hopper Bracket
8	Plate for Hopper
9	Roll Shell
10	Roll Core
11	Bolt for Roll
12	Hook Bolt
13	Socket Wrench
14	Band Wheel
15	Collar
16	Right Hand Spring
17	Left Hand Spring
18	Spring Plate
19	Spring Plate
20	Shaft
21	Rods
22	Adjusting Rod
23	Key for Adjusting Rod
24	Stay Bolt

REPAIR LIST FOR 8″x10″, 20″x10″, 24″x14″, 30″x16″, 36″x16″ and 36″x18″ STYLE "C" ROLLS (T-53)



CLEARANCE DIMENSIONS FOR STYLE "C" CRUSHING ROLLS (T-55)

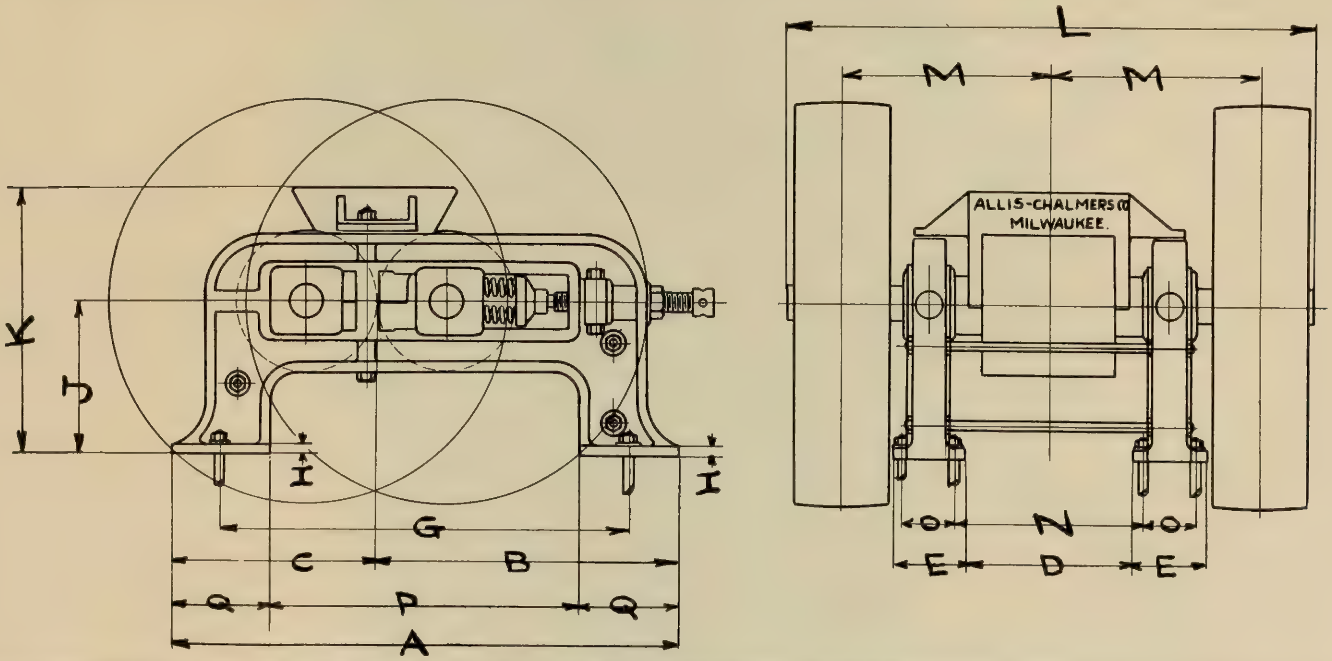


DIMENSIONS OF ROLLS

Size*	A	B	C	D	E	F	G	H	J	K	L	M	Holding Down Bolts	Pulleys
9″ x 9″	2′ 4″	14½″	13½″	12″	4½″	16½″	2′ 0″	1½″	4⅝″	14″	3′ 4″	15¾″	4 - ¾″	20″ x 6½″
18″ x 10″	5′ 4¼″	3′ 4½″	23¾″	14¾″	5½″	20¼″	4′ 9¼″	3½″	11″	2′ 0½″	4′ 1″	20″	4 - 1″	1-40″ x 8½″ 1-42″ x 8½″
20″ x 10″	6′ 3″	4′ 0″	2′ 3″	19″	7″	2′ 2″	5′ 11″	5¾″	11½″	2′ 2½″	4′ 7″	22½″	4 - 1¼″	42″ x 8½″
24″ x 14″	6′ 4″	3′ 9″	2′ 7″	23″	7″	2′ 6″	5′ 9⅞″	5⅞″	11½″	2′ 2″	5′ 4″	2′ 2″	4 - 1″	48″ x 10½″
24″ x 14″ Sectional	6′ 10″	4′ 3″	2′ 7″	22″	8″	2′ 6″	6′ 2″	5¼″	11¼″	2′ 1½″	5′ 4″	2′ 1½″	4 - 1″	48″ x 10½″
30″ x 16″	7′ 2″	4′ 4″	2′ 10″	2′ 1″	8″	2′ 9″	6′ 10″	6″	12″	2′ 8″	6′ 0½″	2′ 4¾″	4 - 1¼″	60″ x 12½″
36″ x 16″	8′ 6″	5′ 0″	3′ 6″	2′ 2″	8″	2′ 10″	8′ 0″	6½″	13″	3′ 3″	6′ 6″	2′ 9″	6 - 1″	60″ x 12½″
36″ x 18″	8′ 6″	5′ 0″	3′ 6″	2′ 4″	8″	3′ 0″	8′ 0″	6½″	13″	3′ 3″	6′ 8″	2′ 10″	6 - 1″	60″ x 12½″

*See opposite page also.

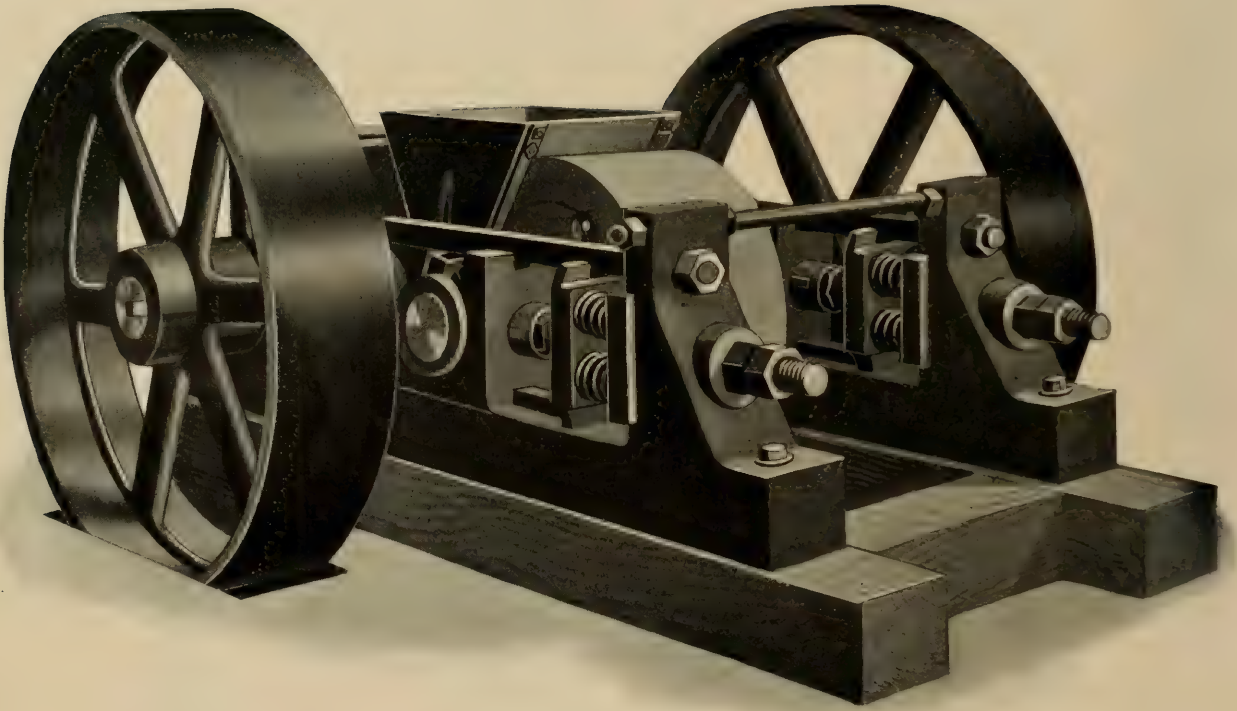
CLEARANCE DIMENSIONS FOR 12½″x 12″ AND 16″x 10″ STYLE "C" CRUSHING ROLLS. (T-56)



DIMENSIONS OF ROLLS

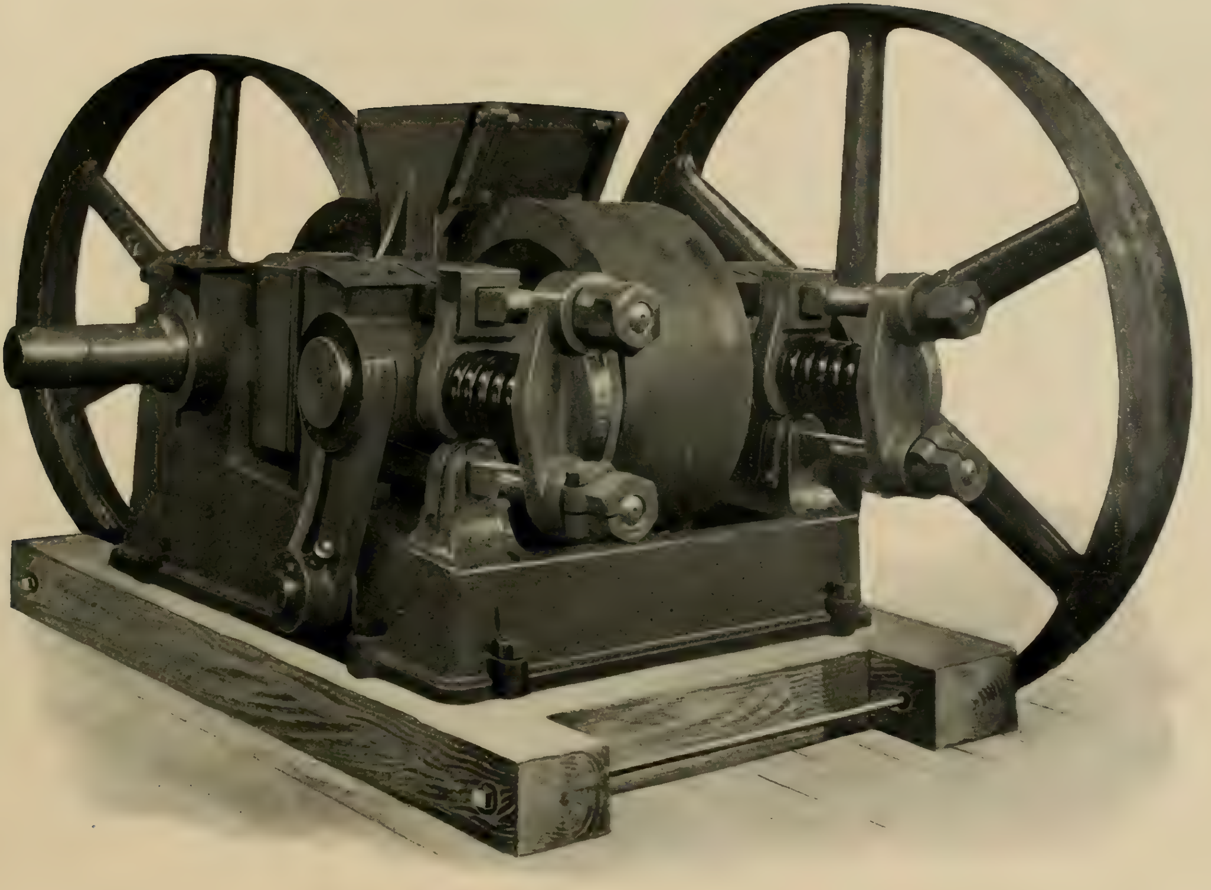
Size	A	B	C	D	E	G	H	J	K	L	M	N	O	P	Q	Holding Down Bolts	Pulleys
12½″ x 12″	3′ 8¼″	2′ 1¾″	18½″	14¼″	6¾″	2′ 11¼″	1″	13¾″	2′ 0″	3′ 9½″	18½″	15¼″	4¾″	2′ 2¼″	9″	8- ⅞″	36″ x 8½″
16″ x 10″	4′ 5″	2′ 7″	22″	13¼″	9¾″	3′ 6″	1½″	20¼″	2′ 8⅝″	4′ 1½″	20½″	15½″	7½″	2′ 7″	11″	8-1″	36″ x 8½″

Plate No. 1383



STYLE "C" ROLL

Plate No. 639



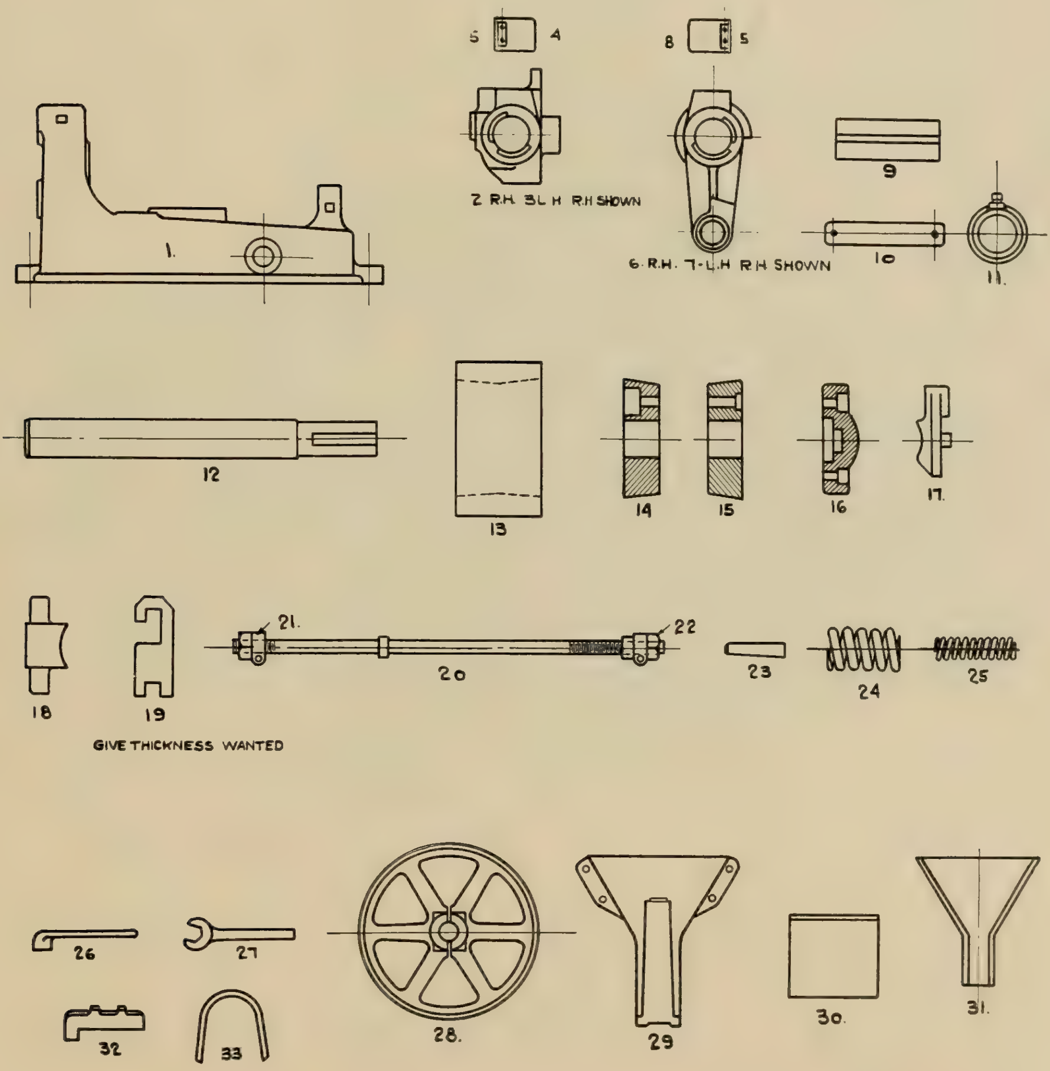
ECONOMIC ROLLS

Size of Rolls, Inches Diameter By Face	Size of Driving Pulley, Inches Each Roll with	Revolutions per Minute	Total Weight Without Housing, Pounds
18″ x 10″	Two 42″ x 6½″	100 to 160	4,700
24″ x 14″	Two 60″ x 8″	100 to 160	10,300
30″ x 14″	Two 72″ x 10½″	75 to 130	16,500

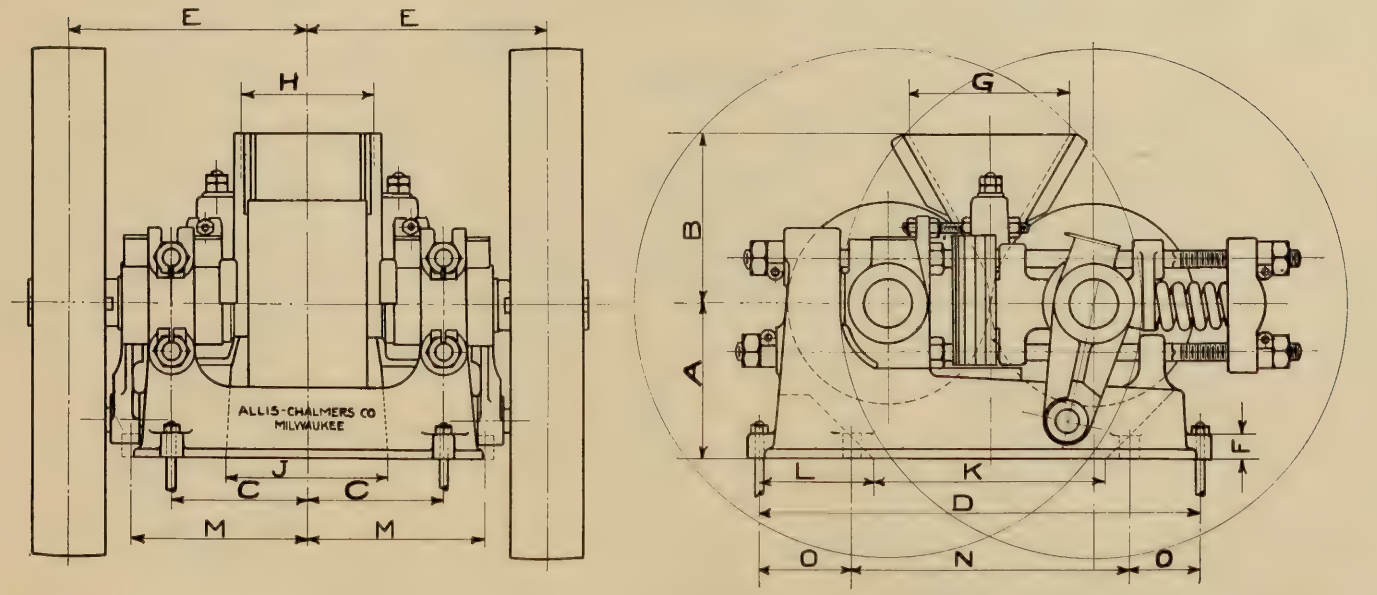
REPAIR PARTS FOR "ECONOMIC" CRUSHING ROLLS

1	Frame
2	Stationary Bearing, R. H., as Shown
3	Stationary Bearing, L. H.
4	Grease Cup Cover for Stationary Bearing
5	Washer for Cover
6	Swinging Bearing ,R. H., as Shown
7	Swinging Bearing, L. H.
8	Grease Cup Cover for Swing Bearing
9	Babbitting Mandrel
10	Rock Shaft
11	Adjusting Collar
12	Roll Shaft
13	Roll Shell
14	Loose Head
15	Tight Head
16	Spring Cap
17	Spring Seat
18	Swinging Bearing Stop
19	Shim, Give Thickness Wanted
20	Tension Bar
21	Tension Bar Nut, Plain
22	Tension Bar Nut, With Boss
23	Tension Bar Key
24	Outside Spring
25	Inside Spring
26	Socket Wrench
27	Wrench
28	Pulley
29	Hopper Side
30	Hopper End
31	Cheek Plate
32	Frame Block
33	Frame Block Strap

"ECONOMIC" CRUSHING ROLLS—LIST FOR REPAIRS

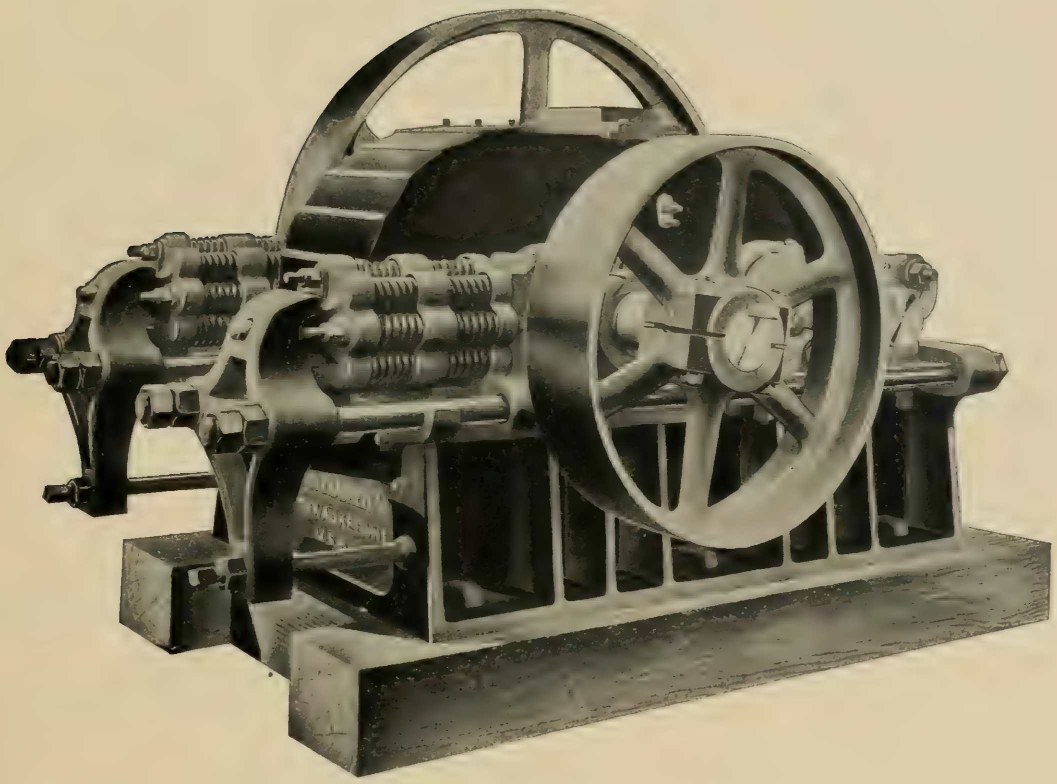


CLEARANCE DIMENSIONS FOR "ECONOMIC" CRUSHING ROLLS



Size of Rolls	DIMENSIONS OF ROLLS															
Inches	A	B	C	D	E	F	G	H	J	K	L	M	N	O	Holding Down Bolts	Pulleys
18" x 10"	13¾"	15"	12½"	3' 3"	23"	2¼"	14"	10¼"	14¾"	20"	10⅝"	....	....	....	⅞"	42" x 6½"
24" x 14"	18¼"	20"	16"	4' 4"	2' 4¼"	3"	19"	15¾"	19"	2' 2¾"	14¼"	....	....	....	1"	60" x 8½"
30" x 14"	23"	24"	18"	5' 4½"	2' 10"	3¼"	20"	14"	20"	2' 11"	16¾"	23¾"	3' 4½"	12"	1"	72" x 10½"

Plate No. 2065



SPECIAL EXTRA HEAVY CRUSHING ROLLS

Size of Rolls, Inches, Diameter By Face	Size of Driving Pulley, Inches, Each Roll with	Revolutions per Minute	Total Weight with Housing, Pounds
40″ x 15″	One 96″ x 12½″ One 48″ x 12½″	50 to 100	38,000
40″ x 30″	One 96″ x 12½″ One 48″ x 12½″	50 to 100	50,000
40″ x 36″	One 96″ x 12½″ One 48″ x 12½″	50 to 100	52,000

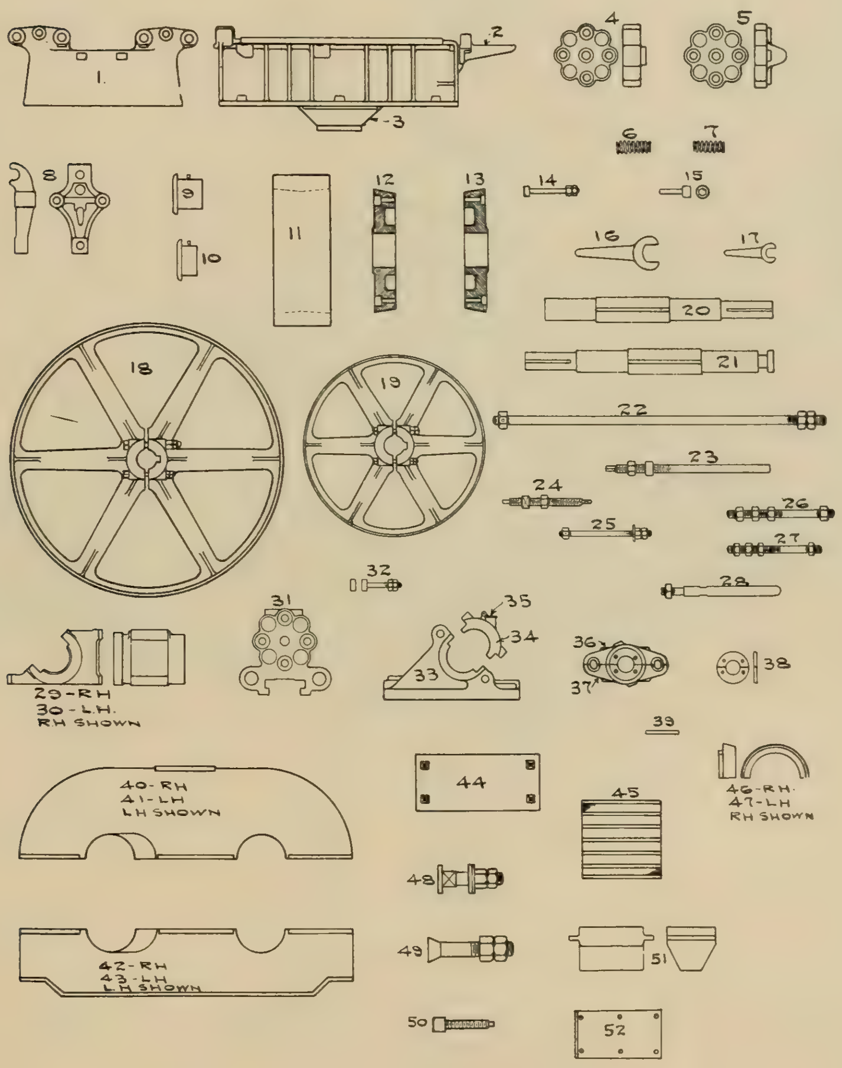
REPAIR PARTS FOR ANACONDA CRUSHING ROLLS

(T-46)

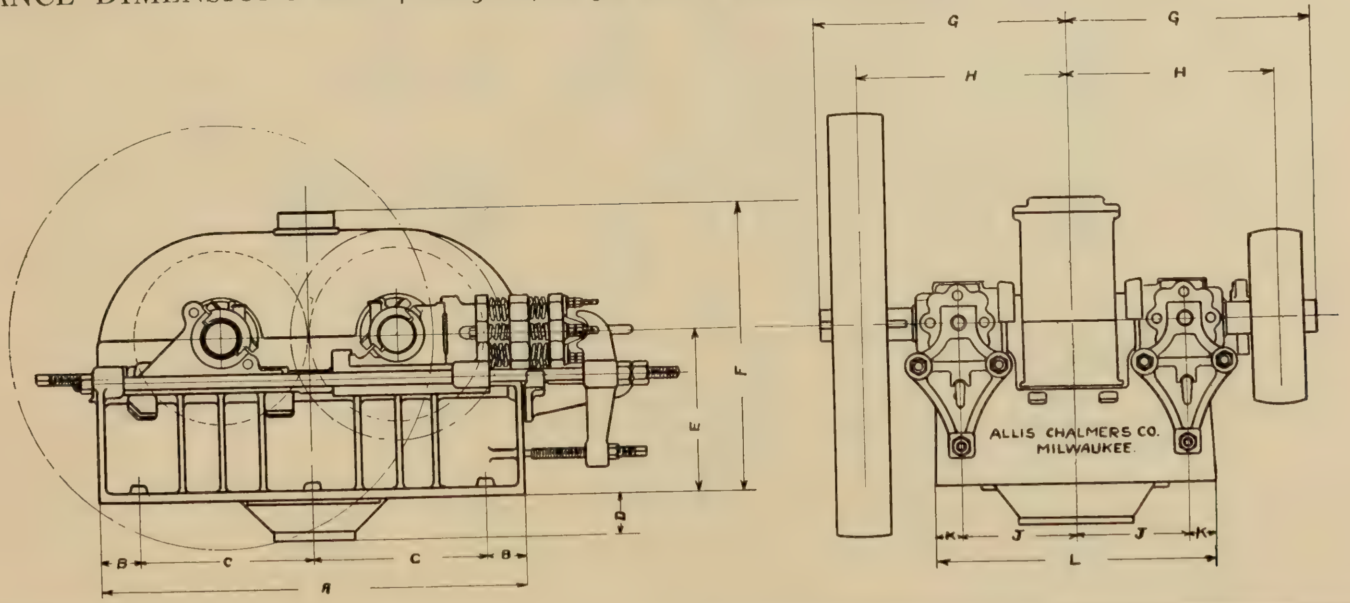
1 Frame
2 Jaw Bracket
3 Discharge Hopper
4 Center Spring Plate
5 Back Spring Plate
6 Spring ,Right Hand
7 Spring, Left Hand
8 Jaw
9 Collar for Stationary Shaft
10 Collar for Movable Shaft
11 Roll Shell
12 Loose Head
13 Tight Head
14 Bolt for Head
15 Socket Wrench
16 Wrench for Tension Rods
17 Wrench for Adjusting Screws
18 Large Pulley
19 Small Pulley
20 Stationary Shaft
21 Movable Shaft
22 Tension Rod
23 Adjusting Rod
24 Jaw Stud
25 Spring Bolt
26 Adjusting Rod, 1¾″x 2′4¼″
27 Adjusting Rod, 1¾″x 2′2½″
28 Spring Center Rod
29 Swivel Box, R. H.
30 Swivel Box, L. H. (Right Hand Shown)
31 Swivel Box Bracket and Spring Seat
32 Cap Bolt for Swivel and Stationary Box
33 Stationary Box
34 Cap for Swivel and Stationary Box
35 Oil Cup Cover
36 Half Adjusting Casting (Tapped)
37 Half Adjusting Casting (Not Tapped)
38 Brass Collar for Adjusting Casting
39 Brass Pin for Collar
40 Upper Half of Housing, R. H.
41 Upper Half of Housing, L. H. (L. H. Shown)
42 Lower Half of Housing, R. H.
43 Lower Half of Housing, L. H. (L. H. Shown)
44 Liner for Housing
45 Canvas Cover with Flat Bars
46 Dust Guard, R. H.
47 Dust Guard, L. H. (R. H. Shown)
48 Special Bolt, with Nuts, for Housing
49 Special Bolt for Liner
50 ¾ Set Screw with Special Point
51 Feed Hopper
52 Top Plate for Housing

ANACONDA CRUSHING ROLLS, LIST FOR REPAIRS.

(T-46)



CLEARANCE DIMENSIONS FOR 40″x 15″—40″x 30″ AND 40″x 36″ CRUSHING ROLLS, ANACONDA TYPE.

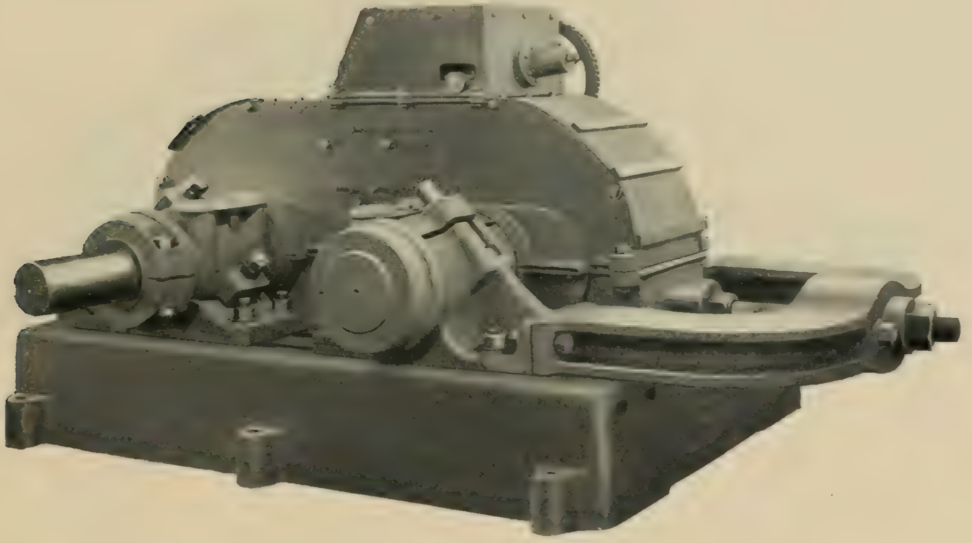


Size of Rolls	DIMENSIONS OF ROLLS												
Inches	A	B	C	D	E	F	G	H	J	K	L	Large Pulley	Small Pulley
40″ x 15″	8′ 0″	9″	3′ 3″	9½″	3′ 1″	5′ 4⅞″	4′ 7¾″	3′ 11″	2′ 1¼″	6″	5′ 2½″	96″ x 12½″	48″ x 12½″
40″ x 30″	8′ 0″	9″	3′ 3″	9½″	3′ 1″	5′ 4⅞″	5′ 3¼″	4′ 6½″	2′ 8¾″	6″	6′ 5½″	96″ x 12½″	48″ x 12½″
40″ x 36″	8′ 0″	8½″	3′ 3½″	9½″	3′ 1″	5′ 4⅞″	5′ 6¼″	4′ 9½″	2′ 11¾″	6″	6′ 11½″	96″ x 12½″	48″ x 12½″

ALLIS-CHALMERS RIGID ROLLS

The Rigid Rolls offered by this Company are very strongly built and especially adapted to the character of the service for which they are required, as may be readily seen from the following description of their construction.

Plate No. 4300



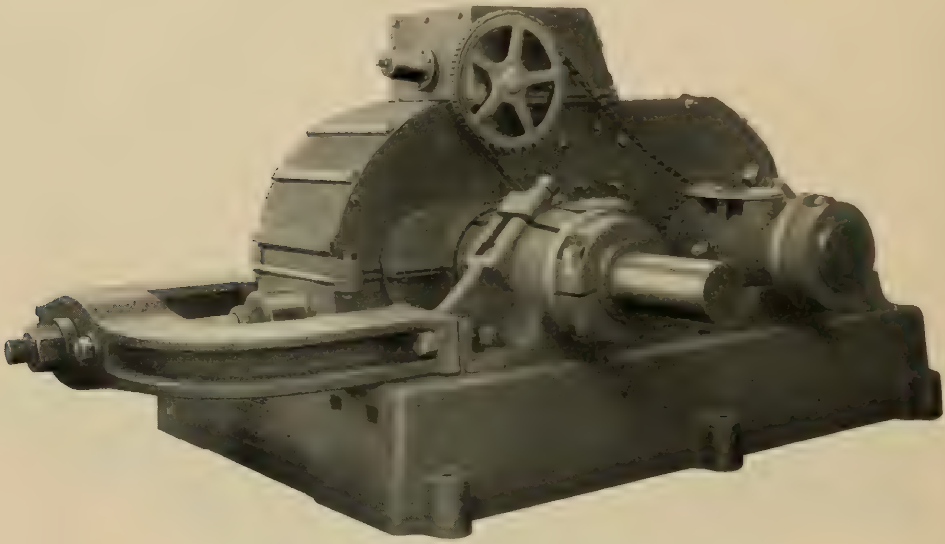
RIGID ROLLS

Size of Rolls, Inches Diameter By Face	Size of Driving Pulley, Inches, Each Roll with	Revolutions per Minute	Total Weight with Housing, Pounds
36″ x 10″	One 84″ x 10½″ One 60″ x 8½″	50 to 100	21,550
36″ x 15″	One 84″ x 10½″ One 60″ x 8½″	50 to 100	25,530

MAIN FRAME:

The frame is made of cast iron in one piece and is self-contained. It is of ample proportions and of strong box section. It is planed upon the bottom to be set on either timber or concrete foundations and is provided with holes for six foundation bolts. These bolts are placed three on each side, and the center bolt is placed in the center of the frame where the greatest strain occurs from the continuous vibration; by this construction the frame can be bolted down securely at the center as well as at the ends, thereby guarding against the possibility of breakage.

Plate No. 4301



RIGID ROLLS

The top of the frame is accurately planed to give a perfect bearing for the journal boxes and the top housing. One end of the frame is provided with heavy finished lugs, against which the stationary roll boxes are made to bear, thus preventing any backward movement. Parallel to the length of the frame, there are provided two sets of slots, through which the stationary and movable bearings are bolted in position. This prevents any possibility of the bearings getting out of line. The other end of the frame has a heavy lug cast on, which is tapped for a tension bolt. This bolt is provided with double nuts to give a bearing on both sides of the safety collar in the yoke.

The movable bearings on this end of frame are rigidly held in line by a cast steel yoke, which is secured to the bearings by a flange and bolted connection.

At the center of this yoke is a cored recess which is fitted with safety collar that is held in place by two bolts. These two bolts, one on each side of the tension bolt, are of sufficient strength to take care of all working strain and when the rolls pass hard foreign substances the pressure against roll faces is transferred to the safety collar by the yoke and pushes off the heads of bolts, thus protecting the frames and vital parts of the machine from severe strains.

In the lower center part of the frame the discharge hopper is formed and this hopper is made wider on the sides below the center line of the rolls, so as to permit a free discharge of the material and prevent it from getting wedged in between the sides and the rolls. The center portion of the frame is carried high enough to form the housing of the rolls up to the center line of the shafts.

BEARINGS:

The bearings or journals are of liberal dimensions and are provided with the best babbitt metal lining. The caps are each provided with two large cellars for grease or waste. They are accurately machined and planed upon the bottom to give a perfect seat on the main frame. The ends are faced and turned for the reception of the dust collars so as to make the journals dust proof. The bearings are designed as angle boxes so as to receive all the bearing pressure on the bottom of the box and prevent any pressure against the caps. Each bearing is provided with four heavy bolts to attach it to the frame and prevent it from raising out of place. The caps are held in place by four bolts for each bearing and these are all provided with double nuts.

SHAFTS:

The shafts on which the rolls are mounted are made of forged steel and are exceptionally large and heavy to provide against any deflection under the heaviest strains to which they are put. They are long enough to give ample journal bearing and are made of extra large size in the center where the cores are placed for holding the shells.

HUBS:

The hubs, which are placed on the shafts to hold the roll shells, are made of cast iron and are in two pieces; one-half is pressed tight on the shaft by hydraulic pressure and keyed in place, the other half is split on one side from the center to the edge and is made a loose fit on the shaft so as to allow a clamping action when in use. Both halves of the hub are accurately turned on edges with a taper surface and both tapers converge toward the center so that, in drawing both halves of the hub together, the clamping action is given that holds the shell securely in place.

The hubs are fitted with heavy bolts for clamping them together and are also provided with two heavy screws for backing off the loose hub when it is necessary to remove the shells.

SHELLS:

The rolls, unless otherwise specified, are fitted with rolled steel shells made of extra quality steel, especially rolled for this service. The shells are rolled true on the face and edges and are bored with double taper inside to fit the taper on the hubs.

HOUSING:

The upper housing for the rolls is made of cast iron sides to fit the lower housing, which is part of the main frame. These cast iron sides are finished on the bottom to make an accurate joint with the frame and are provided with grooves for receiving sheet steel plates or distance pieces forming the cover over part of the rolls. The remaining section over the rolls is provided with a flexible canvas cover, having strips for holding it in place. These canvas covers permit inspection of the rolls when in operation. The sides of the housing are held together by four bolts. On top of the housing at the center there is ordinarily placed a cast iron feed hopper, through which the material is delivered to the rolls. The sides of the hopper inside are provided with hard iron adjustable side plates which can be kept up close to the side of the rolls and can be easily renewed when worn out.

DUST COLLARS:

On each shaft there are provided four dust collars. The outside collars are split and provided with a clamp screw, by which they are held in place on the shafts, and with flanges that fit over the edge of the journal boxes.

The collars on the center are made in two halves, so as to fit around the shaft, and are held against the housing by small compression springs; they also are flanged to fit over the ends of the journal boxes. These collars are arranged with a large space to be packed with loose waste or other material to prevent any grit getting into the bearings from that end.

PULLEYS:

The pulleys on these rolls are made of large size and of heavy proportion throughout. They have split or clamping hubs so as to permit easy removal when necessary to make repairs on the shafts or boxes.

FOUNDATION RODS:

The rolls are provided with foundation bolts of proper size and will be made for either concrete or wood foundations as required.

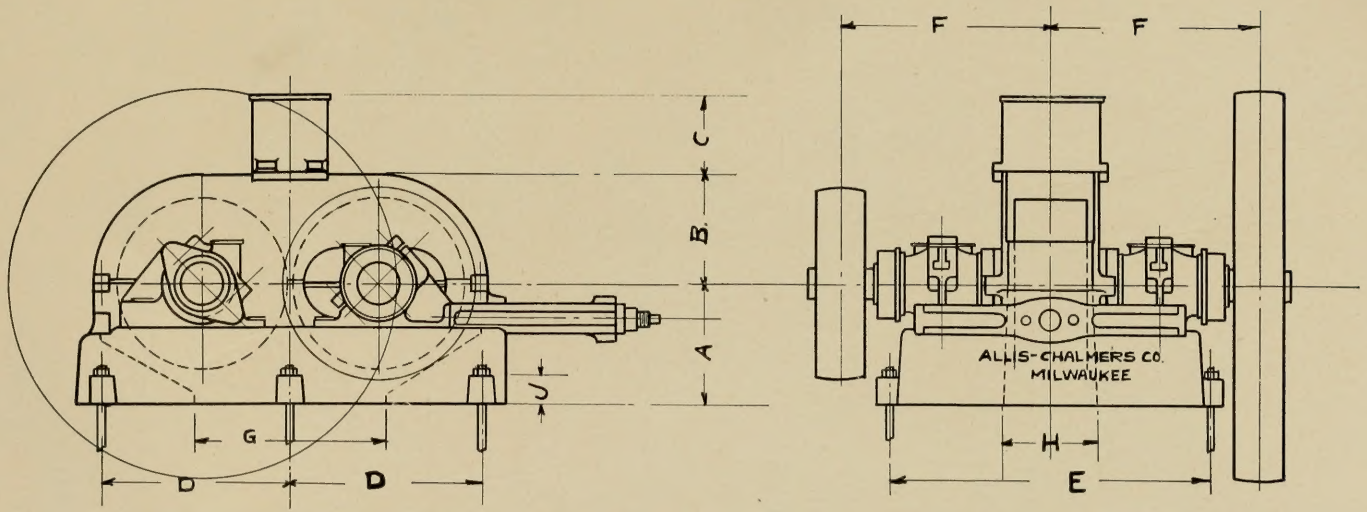
WRENCHES:

A set of wrenches of sizes to fit the bolts on the machine are furnished.

FEEDERS:

When so desired, these rolls can be fitted with an automatic feeder. The feeder furnished is of the shaking tray type designed to fit the housing and provided with compression spring, cam and shaft arranged to be driven by sprocket wheels from one of the roll shafts.

CLEARANCE DIMENSIONS FOR RIGID CRUSHING ROLLS (T-63)



Size of Rolls	DIMENSIONS OF ROLLS											
Inches	A	B	C	D	E	F	G	H	J	Holding Down Bolts	Band Wheel	Pulley
36″ x 15″	25½″	20¾″	16¼″	3′ 4″	5′ 7″	3′ 7⅞″	3′ 4″	20″	6″	1¼″	84″ x 10½″	40″ x 10½″
36″ x 10″	25½″	21″	16″	3′ 4″	5′ 7″	3′ 6⅜″	3′ 4″	17″	6″	1¼″	78″ x 10½″	34″ x 10½″

REPAIR PARTS FOR RIGID ROLLS

(T-32)

1 Frame
2 Hopper
3 Bearing (Stationary)
4 Cap
5 Bearing (Movable)
6 Cap
7 T-Head Cap Bolt
8 Dust Guard
9 Dust Guard
10 Deflecting Plate (For Hopper)
11 Housing Side, R. H. (as Shown)
12 Housing Side, L. H.
13 Liner
14 Adjusting Castings (in Halves)
15 Spring for Dust Guards
16 Cover on Housing (Canvas)
17 Wearing Plate (for Adjustment)
18 Oil Cover (for Bearing Caps)
19 Adjusting Rod
20 Roll Shaft (without Feeder Extension)
21 Roll Shaft
22 Roll Shell
23 Tight Head
24 Loose Head
25 Socket Wrench
26 Large Pulley
27 Collar
28 Small Pulley
29 Yoke
30 Adjusting Screw
31 Block for Yoke
32 Breaking Bolt